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- (71) Applicant (for all designated States except US): **THE GENERAL HOSPITAL CORPORATION [US/US]**; 55 Fruit Street, Boston, MA 02114 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **TEARNEY, Guillermo, J.** [US/US]; 118 Kinnaird Street #3, Cambridge, MA 02139 (US). **BOUMA, Brett, Eugene** [US/US]; 12 Monmouth Street, Quincy, MA 02171 (US).
- (74) Agents: **BERNSTEIN, Jason, A. et al.**; Powell, Goldstein, Frazer & Murphy LLP, 16th Floor, 191 Peachtree, Atlanta, GA 30303-1736 (US).

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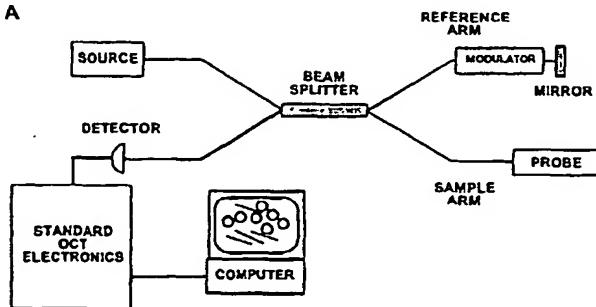
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(54) Title: APPARATUS FOR LOW COHERENCE RANGING

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(57) **Abstract:** An apparatus for performing low coherence ranging of a sample with high transverse resolution and large depth of focus, comprising an optical ranging system comprising a light source, a means for directing light from the light source to the sample, a means for directing reflected light from the sample to a detector, at least one detector, a means for processing light data received by the detector and which generates an image; and an optical element having a transverse resolution defined as  $\Delta r$  is less than or equal to about 5  $\mu m$ , and a depth of focus  $\Delta z$  of at least about 50  $\mu m$ .